

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

*LT**ME*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/522,563	03/10/00	COOK	K 13DV13190

006111
GENERAL ELECTRIC COMPANY
ANDREW C HESS
GE AIRCRAFT ENGINES
ONE NEUMANN WAY M/D H17
CINCINNATI OH 45215-6301

MM92/0425

EXAMINER

PATEL, P

ART UNIT	PAPER NUMBER
----------	--------------

2858

DATE MAILED: 04/25/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)
	09/522,563	COOK ET AL.
	Examiner	Art Unit
	Paresh Patel	2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 10 March 2000.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-18 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 03/10/2000 is/are objected to by the Examiner.

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) Notice of References Cited (PTO-892) 18) Interview Summary (PTO-413) Paper No(s). _____.

16) Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) Notice of Informal Patent Application (PTO-152)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 20) Other: _____

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show a control circuit and a memory as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the comparator and the one pole lag filter must be shown or the feature(s) canceled from the claim(s).

The drawings are objected to because coordinates/units of y-axis is not shown in fig. 3 also unit of x-axis is not shown.

Correction is required but no new matter should be entered.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Detection of faults in LVDT and RVDT transducers.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of 37 CFR 1.71(a)-(c):

- (a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.
- (b) The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth.
- (c) In the case of an improvement, the specification must particularly point out the part or parts of the process, machine, manufacture, or composition of matter to which the improvement relates, and the description should be confined to the specific improvement and to such parts as necessarily cooperate with it or as may be necessary to a complete understanding or description of it.

The specification is objected to under 37 CFR 1.71 because at page 3, line 20, a phrase "a most previous sum" is not defined. On page 3, lines 24-25, "short term sum value also is stored in memory" where memory is not shown in figures. On page 4, line 11, "long term sum value also is stored in memory" where memory is not shown in figures. On page 5, lines 3 and 6, where "V2FLTThresh" is not defined in disclosure; also on line 13, "a control system" is not shown in figures. On page 5, lines 21-23, where "CFHiThresh" and "CFLoThresh" are not defined as value of "DLTST" as shown in fig. 3.

On page 4, lines 18-20, where a switch position depends from a control signal, Examiner failed to see how control signal gets its input, because in the figures no such circuit is disclosed. Similarly on page 5, lines 15-19, Examiner fails to understand how confidence value of 1 is assigned and what is it assigned to. It is also not clear how confidence factor 0 is assigned and assigned to what; also it is not shown or disclosed what is the difference between confidence value and confidence factor.

Also no such circuit is disclosed which compares the absolute value of element 82 to a reference value and generates fault indication signal or correction factor signal or no fault signal.

The disclosure is also objected to because of the following informalities: On page 4, line 12, "short" should read -long-. On page 5, lines 1, 7 and 10, "DLST" should read -DLTST-. On page 5, line 8, "0.04 and 0.08" should read -0.04 Vrms and 0.08 Vrms-.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1 and 11, a phrase "maintaining the reference value constant" is not clear from disclosure on page 4, lines 18-26. Also values of "LTfreeze" and "LTfreezeThresh" are not shown in figures and Examiner also failed to understand what is "LTfreeze".

Regarding claims 2 and 12, "generating a fault indication signal" is not clear from the disclosure lines 1-6 of page 5, because relation between "DLTST", "VDTFLT", "V1 + V2FLTThresh" and "V2FLTThresh" are not shown in the figure as disclosed.

Regarding claims 3 and 13, "generating a confidence factor" is not clear from the disclosure on page 5 lines 15-23, where value of "CFHiThresh" and "CFLoThresh" in fig. 3 is not shown. Also assigning a confidence factor to what, is not disclosed.

Regarding claims 4 and 14, "freeze threshold value" and "fault threshold value" is not clear from the figures as well as disclosure on page 4, lines 18-26, and page 5, lines 1-6.

Claim 5 is rejected because it depends from claim 1.

Regarding claim 6, a comparator is not disclosed in the specification.

Claims 7-10 are rejected because they depends from claim 6.

Regarding claim 15, Examiner failed to understand what determines the difference of first and second voltage values exceeds a freeze threshold or fault threshold. Also an apparatus generating a fault indication signal is not clear from the disclosure on page 5, lines 1-5.

Claims 16-18 are rejected because they depends from claim 15.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-4 and 11-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, Examiner failed to understand the metes and bounds of "a confidence factor indicative of a likelihood".

The term "about" in claims 4 and 14 are a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Regarding claim 11, Examiner failed to understand how, long term filter maintains said second voltage value constant and how, comparison of absolute value to a freeze threshold or fault threshold value are made.

Claims 12-13 are rejected because they depends from claim 11.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7, 9, 11-13, 15 and 18 as best understood by Examiner are rejected under 35 U.S.C. 102(b) as being anticipated by Maher (US 5777468).

Regarding claims 1-3, 5-7, 9, 11-13, 15 and 18 Maher discloses: a short term filter [element Rf11 and Cf11 of fig. 3], a long term filter [element R35 and Cfau of fig. 3], a comparator [element CM3 of fig. 3], a one pole leg filter [element Rf12 and Cf12 of fig. 3], difference between the first and second voltage value exceeds a freeze threshold, then long term filter maintains said second value constant [lines 30-39 of column 6], generating a fault indication signal if difference between summed voltage value and a reference value exceeds threshold value [lines 1-3 of column 7], generating a confidence factor if the difference between the first voltage value and the second voltage value is less than the fault threshold value [lines 3-6 of column 7], reference value is a sum of the secondary voltage under no fault [lines 14-20 of column 3], a secondary winding having at least two voltage outputs [element 14 of fig. 1], obtaining a summed voltage value [element 22 of fig. 1] to determine a difference between a summed voltage value to a reference value [element 24 of fig. 1].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 8, 10, 14 and 16-17 as best understood by Examiner are rejected under 35 U.S.C. 103(a) as being unpatentable over Maher as applied to claims 3, 7, 9, 11-12 and 15 above.

Regarding claims 4, 8, 10, 14 and 16-17 Maher discloses all the essential element of the claimed invention except for, a freeze threshold is about 0.05 Vrms, a fault threshold is about 0.08 Vrms, short term filter has time constant of 0.150 and long term filter has time constant of 30 seconds. Official Notice is taken that all above values can be obtain through routine experimentation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to obtain time constant value for filters and thresholds values for comparison, for the purpose of studing electrical characteristic behavior of electrical circuits.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Frazzini et al. (US 5235274), Quastel et al. (US 4901008), Stelter et al. (US 5982274), Halder et al. (US 4434400), Frazzini et al. (US 5180979), Willsch et al. (US 6208129).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 703-306-5859. The examiner can normally be reached on M-F (8:30 to 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Paresh Patel
April 22, 2001



Safet Metjahic
Supervisory Patent Examiner
Technology Center 2800